Installing a V.34 Console Modem Module in a BayStack ARN Router

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Bay Networks

Bay Networks

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Meets requirements of:

FCC Part 15, Class A
EN 55 022 (CISPR 22:1985), Class A <and Class B>
VCCI Class 1 ITE

Canada Requirements Only

Canada CS-03 Rules and Regulations

Note: The Canadian Department of Communications label identifies certified equipment. The certification means that the equipment meets certain telecommunications network protective operations and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent the degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Canada CS-03 -- Règles et règlements

Note: L’étiquette du ministère des Communications du Canada indique que l’appareillage est certifié, c’est-à-dire qu’il respecte certaines exigences de sécurité et de fonctionnement visant les réseaux de télécommunications. Le ministère ne garantit pas que l’appareillage fonctionnera à la satisfaction de l’utilisateur.

Avant d’installer l’appareillage, s’assurer qu’il peut être branché aux installations du service de télécommunications local. L’appareillage doit aussi être raccordé selon des méthodes acceptées. Dans certains cas, le câblage interne du service de télécommunications utilisé pour une ligne individuelle peut être allongé au moyen d’un connecteur certifié (prolongateur téléphonique). Le client doit toutefois prendre note qu’une telle installation n’assure pas un service parfait en tout temps.

Les réparations de l’appareillage certifié devraient être confiées à un service d’entretien canadien désigné par le fournisseur. En cas de réparation ou de modification effectuées par l’utilisateur ou de mauvais fonctionnement de l’appareillage, le service de télécommunications peut demander le débranchment de l’appareillage.

Pour leur propre sécurité, les utilisateurs devraient s’assurer que les mises à la terre des lignes de distribution d’électricité, des lignes téléphoniques et de la tuyauterie métallique interne sont raccordées ensemble. Cette mesure de sécurité est particulièrement importante en milieu rural.

Attention: Les utilisateurs ne doivent pas procéder à ces raccordements eux-mêmes mais doivent plutôt faire appel aux pouvoirs de réglementation en cause ou à un électricien, selon le cas.

Canada Requirements Only *(continued)*

D. O. C. Explanatory Notes: Equipment Attachment Limitations

The Canadian Department of Communications label identifies certified equipment. This certification meets certain telecommunication network protective, operational and safety requirements. The department does not guarantee the equipment will operate to the users satisfaction.

Before installing the equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above condition may not prevent degradation of service in some situations.

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Notes explicatives du ministère des Communications: limites visant les accessoires

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Attention: Les utilisateurs ne doivent pas procéder à ces raccordements eux-mêmes mais doivent plutôt faire appel aux pouvoirs de réglementation en cause ou à un électricien, selon le cas.

Canada Requirements Only *(continued)*

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (Access Feeder Node, Access Link Node, Access Node, Access Stack Node, Backbone Concentrator Node, Backbone Concentrator Node Switch, Backbone Link Node, Backbone Link Node Switch, Concentrator Node, Feeder Node, Link Node) does not exceed the Class A limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Réglement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique (Access Feeder Node, Access Link Node, Access Node, Access Stack Node, Backbone Concentrator Node, Backbone Concentrator Node Switch, Backbone Link Node, Backbone Link Node Switch, Concentrator Node, Feeder Node, Link Node) respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Réglement sur le brouillage radioélectrique du ministère des Communications du Canada.

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About This Guide

If you are responsible for installing Bay Networks™ hardware, read this guide to learn how to install a V.34 Console Modem module replacement or upgrade in a BayStack™ Advanced Remote Node™ (ARN™) router.

Before You Begin

Make sure that you are running the latest version of Bay Networks Site Manager and router software. The ARN requires Router Software Version 11.00 Rev. 4n or later.

Conventions

italic text	Indicates variable values in command syntax descriptions, new terms, file and directory names, and book titles.
quotation marks (“ ”)	Indicate the title of a chapter or section within a book.

Acronyms

AUI	Attachment Unit Interface
SIMM	streamlined inline memory module
STP	shielded twisted-pair
UTP	unshielded twisted-pair

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Region	Telephone Number	Fax Number
United States and Canada	1-800-2LANWAN; enter Express Routing Code (ERC) 290 when prompted (508) 436-8880 (direct)	(508) 670-8766
Europe	(33) 92-968-300	(33) 92-968-301
Asia/Pacific Region	(612) 9927-8800	(612) 9927-8811
Latin America	(407) 997-1713	(407) 997-1714

In addition, you can receive information on support programs from your local Bay Networks field sales office, or purchase Bay Networks support directly from your authorized partner.

Bay Networks Information Services

Bay Networks Information Services provide up-to-date support information as a first-line resource for network administration, expansion, and maintenance. This information is available from a variety of sources.

World Wide Web

The Bay Networks Customer Support Web Server offers a diverse library of technical documents, software agents, and other important technical information to Bay Networks customers and partners.

A special benefit for contracted customers and resellers is the ability to access the Web Server to perform Case Management. This feature enables your support staff to interact directly with the network experts in our worldwide Technical Response Centers. A registered contact with a valid Site ID can

- View a listing of support cases and determine the current status of any open case. Case history data includes severity designation, and telephone, e-mail, or other logs associated with the case.
- Customize the listing of cases according to a variety of criteria, including date, severity, status, and case ID.
- Log notes to existing open cases.
- Create new cases for rapid, efficient handling of noncritical network situations.
- Communicate directly via e-mail with the specific technical resources assigned to your case.

The Bay Networks URL is *http://www.baynetworks.com*. Customer Service is a menu item on that home page.

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The Support Source CD contains extracts from our problem-tracking database; information from the Bay Networks Forum on CompuServe; comprehensive technical documentation, such as Customer Support Bulletins, Release Notes, software patches and fixes; and complete information on all Bay Networks Service programs.

You can run a single version on Macintosh Windows 3.1, Windows 95, Windows NT, DOS, or UNIX computing platforms. A Web links feature enables you to go directly from the CD to various Bay Networks Web pages.

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For assistance with noncritical network support issues, Bay Networks Information Services maintain an active forum on CompuServe, a global bulletin-board system. This forum provides file services, technology conferences, and a message section to get assistance from other users.

The message section is monitored by Bay Networks engineers, who provide assistance wherever possible. Customers and resellers holding Bay Networks service contracts also have access to special libraries for advanced levels of support documentation and software. To take advantage of CompuServe's recently enhanced menu options, the Bay Networks Forum has been re-engineered to allow links to our Web sites and FTP sites.

We recommend the use of CompuServe Information Manager software to access these Bay Networks Information Services resources. To open an account and receive a local dial-up number in the United States, call CompuServe at 1-800-524-3388. Outside the United States, call 1-614-529-1349, or your nearest CompuServe office. Ask for Representative No. 591. When you are on line with your CompuServe account, you can reach us with the command **GO BAYNET**.

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InfoFACTS is the Bay Networks free 24-hour fax-on-demand service. This automated system has libraries of technical and product documents designed to help you manage and troubleshoot your Bay Networks products. The system responds to a fax from the caller or to a third party within minutes of being accessed.

To use InfoFACTS in the United States or Canada, call toll-free 1-800-786-3228. Outside North America, toll calls can be made to 1-408-764-1002. In Europe, toll-free numbers are also available for contacting both InfoFACTS and CompuServe. Please check our Web page for the listing in your country.

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Sydney, Australia	(612) 9927-8800	(612) 9927-8811
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Chapter 1
Installing the Console Modem

Complete the steps in this chapter to install a V.34 Console Modem module in an ARN router. To install the module, you

1. Open the ARN enclosure to access the component tray.
2. Attach an antistatic wrist strap.

Caution: Electrostatic discharge can damage hardware. You must wear the antistatic strap whenever you remove, install, or handle printed circuit boards.

3. If present, remove an existing V.34 Console Modem module from the ARN.
4. Install the new V.34 Console Modem module on the ARN base module.
5. Close the ARN.
6. Reconnect the ARN to the network and configure the console modem.

Opening the ARN

To open the ARN enclosure and expose the base module:

1. **Be sure that the ARN power switch is turned off (0).**
2. **Unplug the power cable from the wall receptacle and then from the ARN (Figure 1-1).**
3. **If present, unplug the redundant power supply cable and all console port cables (Figure 1-1).**

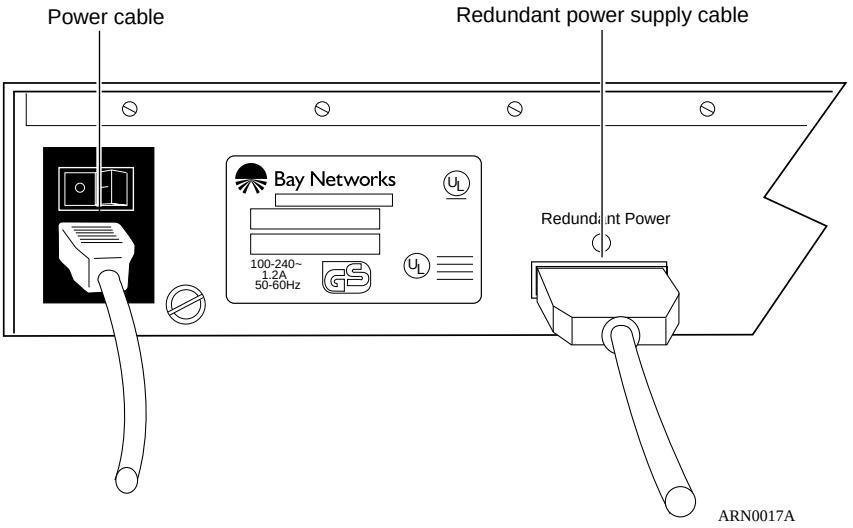


Figure 1-1. ARN Power Switch (Off) and Cable

4. **Remove any console cabling from the back panel.**
5. **Loosen the two captive screws that secure the top enclosure to the ARN component tray (Figure 1-2).**

   Be sure to loosen the screws all the way.

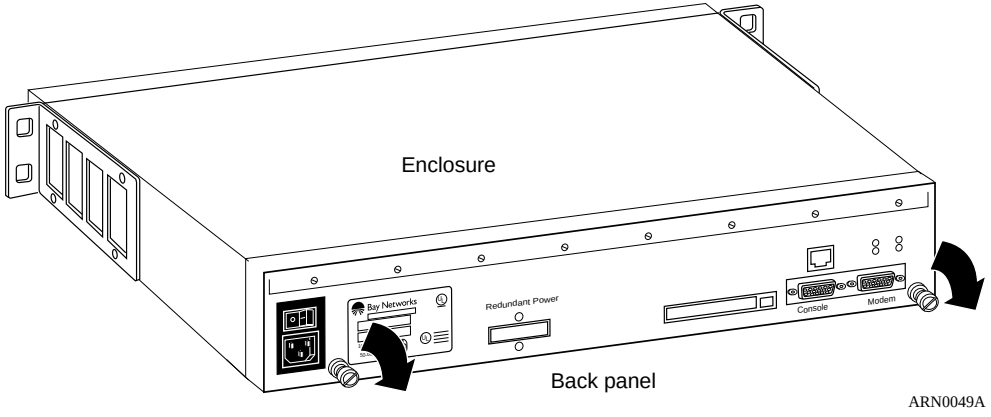


Figure 1-2. Loosening the Captive Screws

6. **Remove all network cables from the front panel.**
7. **Place the ARN tray on a table or other work surface.**
8. **Holding the ARN front panel so that it does not move, slide the ARN enclosure away from the front panel and component tray (Figure 1-3).**

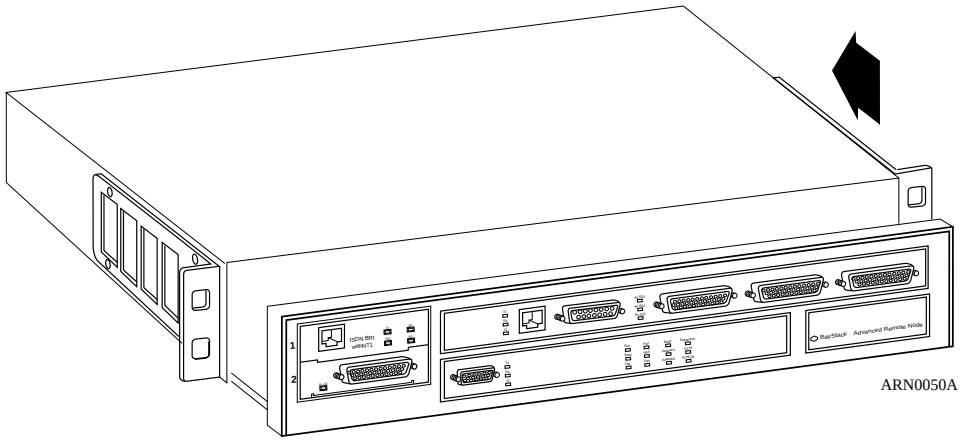


Figure 1-3. Removing the ARN Enclosure

9. **Attach an antistatic wrist strap before proceeding.**

   You receive an antistatic wrist strap with the ARN system and with the upgrade module shipment. Refer to the instructions in the wrist strap bag.

   The antistatic wrist strap directs the discharge of static electricity from your body to the router chassis, thereby avoiding discharge to sensitive electronic components.

10. **To upgrade the ARN, skip the next section and proceed to "Installing a Console Modem Module." To replace an installed V.34 Console Modem, continue with the next section.**

Removing an Installed Module

To remove an existing V.34 Console Modem module from the ARN base module:

1. **Locate the installed module and remove the four screws that secure it to the base module (Figure 1-4).**

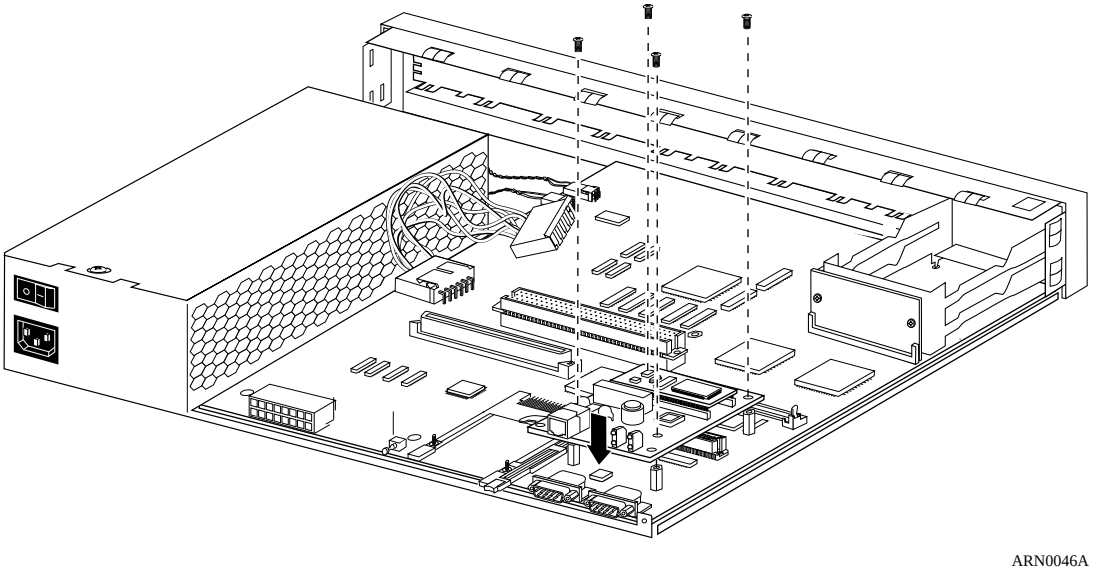


Figure 1-4. Removing the Screws

2. **Grasping the edges of the module, pull straight up and lift the module out of the base module connector socket.**
3. **Place the removed module in an antistatic bag, or set it on an antistatic mat.**

Installing a Console Modem Module

To install a V.34 Console Modem module:

1. **Remove and set aside the two screws that secure the back panel EMI filler plate (Figure 1-5).**

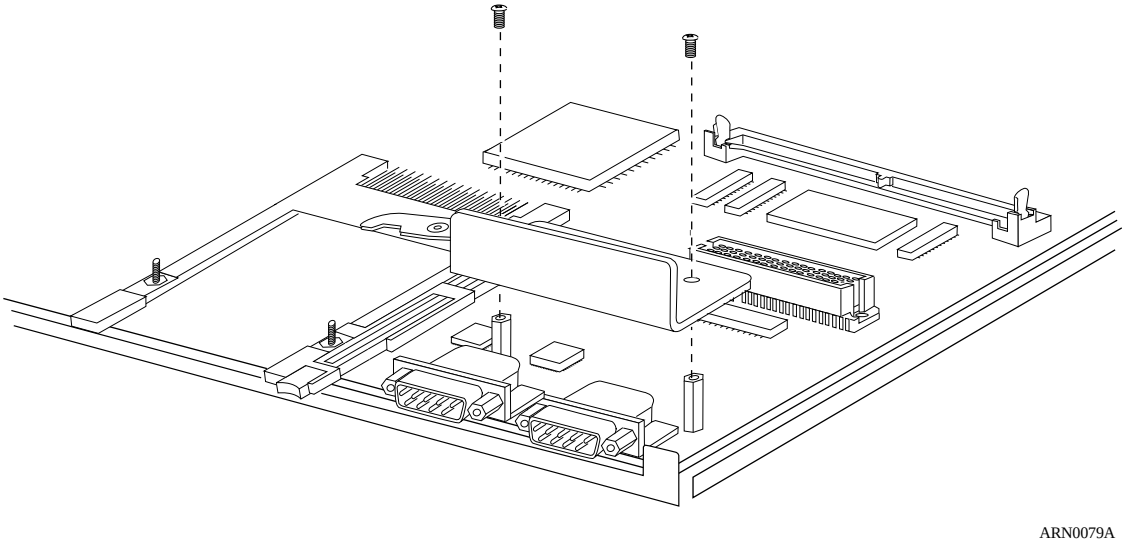


Figure 1-5. Removing the Filler Plate for the V.34 Console Modem Slot

2. **Remove the filler plate.**
3. **Attach two mounting screw standoffs at either side of the base module's V.34 modem connector (Figure 1-6).**

   The standoff mounts came with the console modem kit.

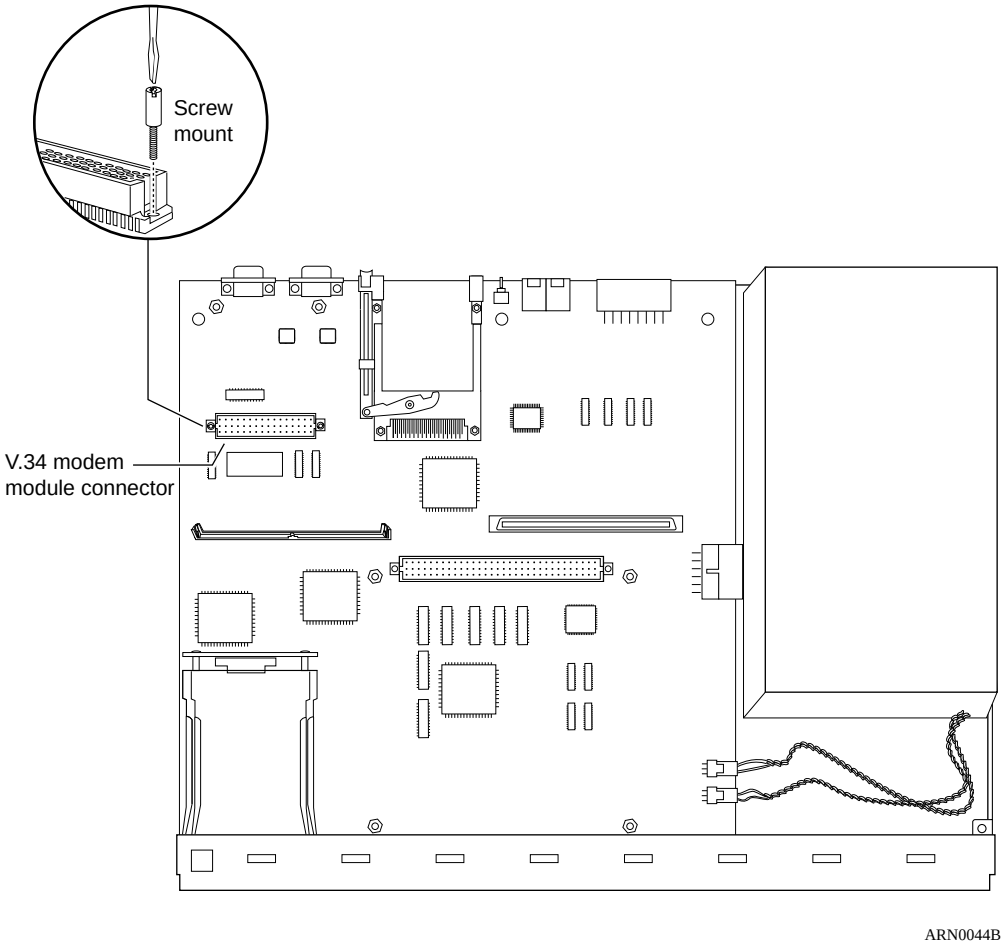


Figure 1-6. Installing Standoff Screw Mounts for the V.34 Console Modem Module

4. **Hold the module by its edges, with the base module connector facing down (Figure 1-7).**

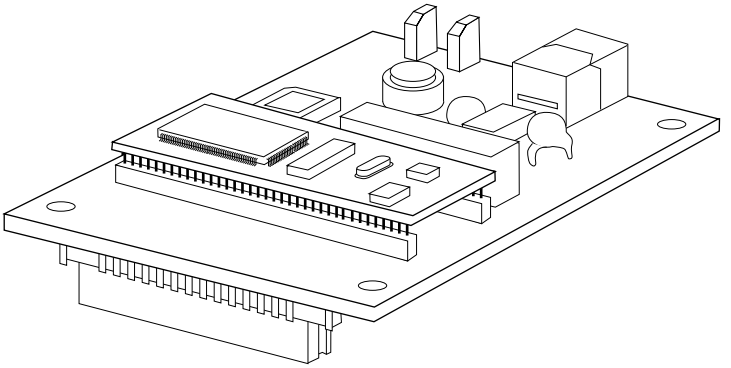


Figure 1-7. Positioning the Module

5. **Place the console modem module into the base module connector socket and press down to seat the module firmly in the socket.**
6. **Secure the module using four screws (Figure 1-8).**

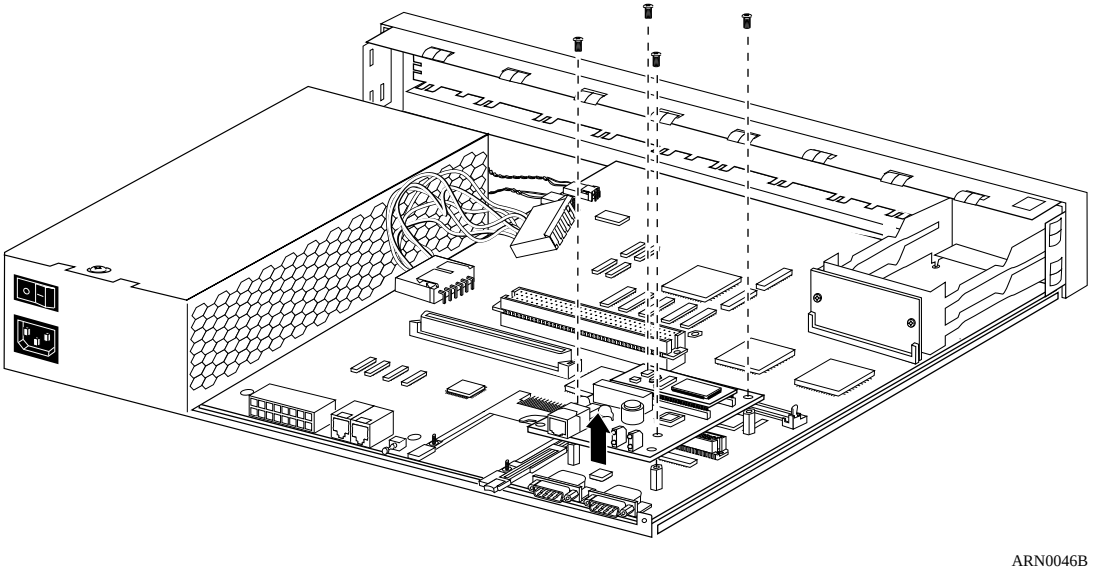


Figure 1-8. Securing the Module

Closing the ARN

To replace the ARN enclosure:

1. **Remove the antistatic wrist strap.**
2. **Align the enclosure top around the base module component tray and slide the enclosure in until it meets the front panel (Figure 1-9).**

   If you meet resistance, lift up slightly on the enclosure, and center the component tray between the enclosure edges.

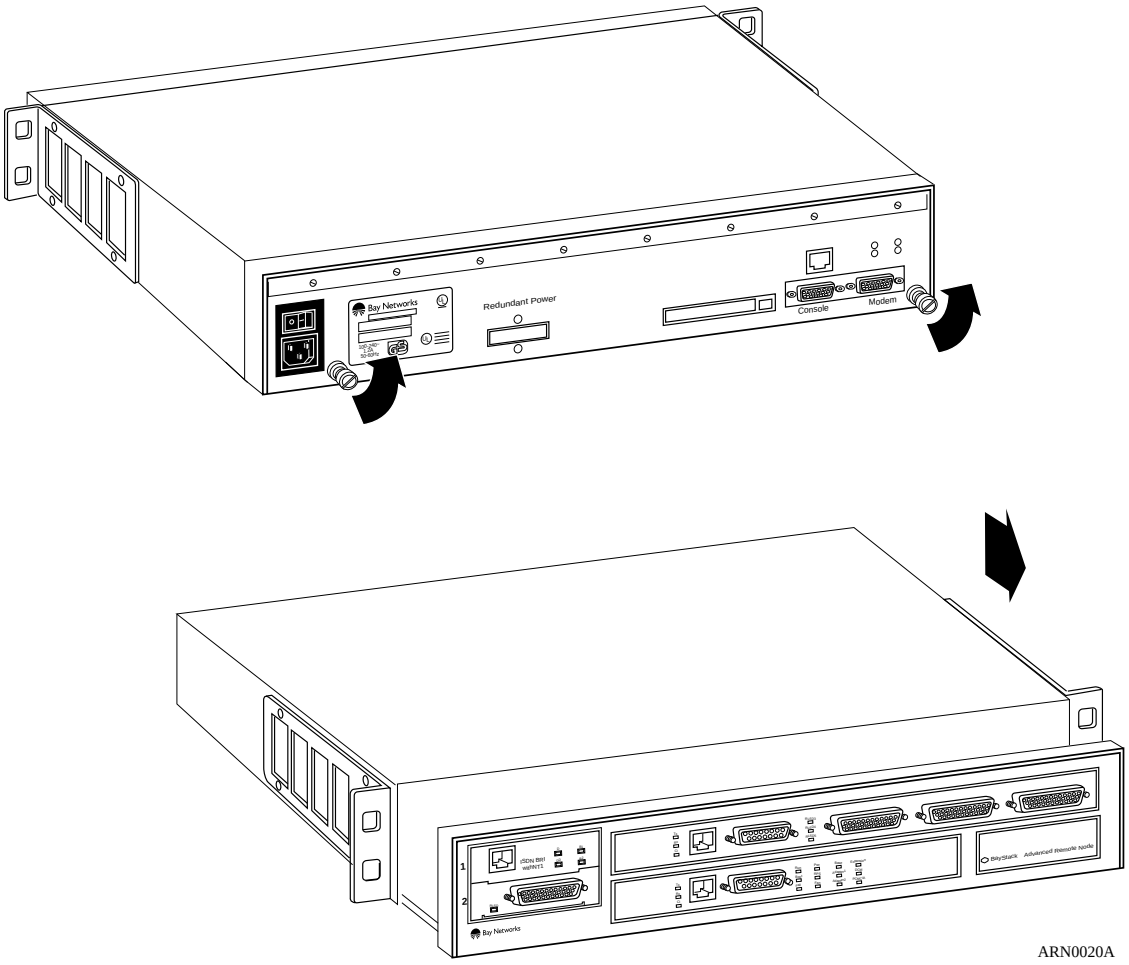


Figure 1-9. Replacing the ARN Cover

3. **Secure the two captive screws that hold the cover to the component tray.**
4. **Reconnect any cabling you removed.**
5. **Plug in the power cord and, if applicable, the redundant power supply cable.**

   Refer to Figure 1-1.
6. **Attach the label that came in the upgrade kit to the ARN back panel.**

Connecting Cables

Before reconnecting the ARN to the network, connect an RJ-11 modem cable to the new V.34 interface (Figure 1-10).

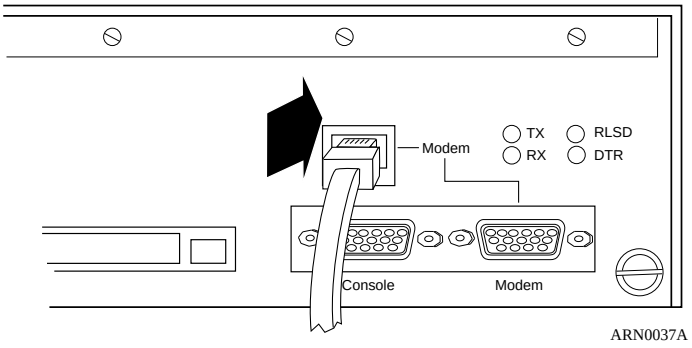
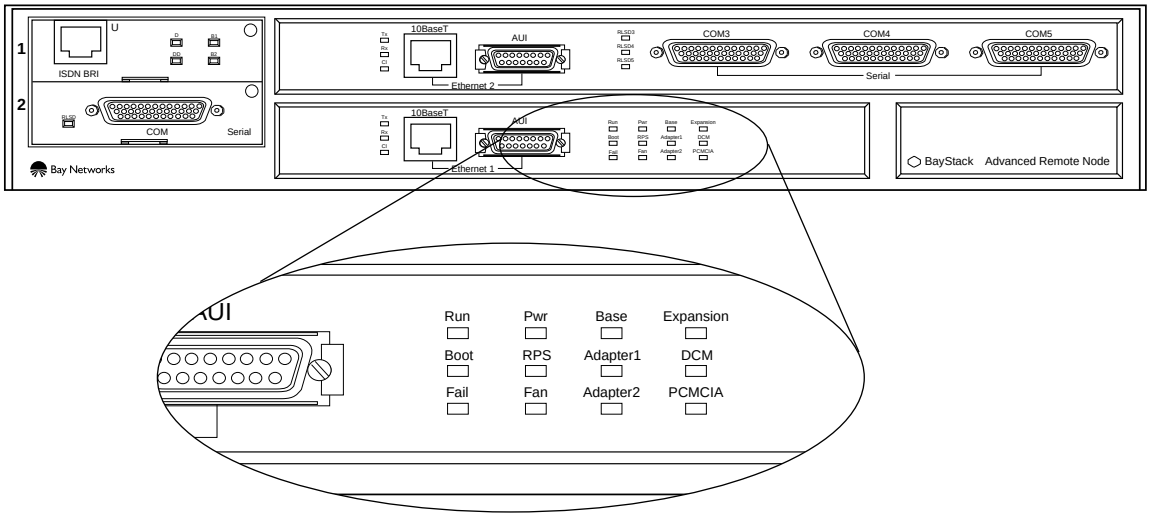


Figure 1-10. V.34 Console Modem Connector

Refer to the *Cable Guide for Routers and BNX Platforms* for the cables available from Bay Networks.

Ensuring a Successful Installation

After reconnecting the ARN to the network, you can ensure a successful upgrade by checking the diagnostic LEDs on the front panel of the base module (Figure 1-11).



ARN0059A

Figure 1-11. ARN Base Module Diagnostic LEDs

When you power on the ARN, the following sequence of front panel LED activity should occur:

1. All base module LEDs light momentarily; this tests that the LEDs are operational.
2. The Run, Boot, and Fail LEDs count through a short, initial startup sequence.
3. The Pwr (power) LED lights and remains on.
4. The Run LED begins flashing and continues to flash until the ARN completes all diagnostic tests.
5. As the diagnostic procedure tests each module, the LED representing that module flashes slowly. If the module passes its diagnostic test, the LED remains on. If the module fails its diagnostic test, the Fail LED remains on and the module LED flashes rapidly.

6. After completing the diagnostic testing procedure, the boot process begins. The Run and Boot LEDs indicate the boot status as shown in Table 1-1.

Table 1-1. Boot Status LEDs

Boot Status	Run LED	Boot LED
Local Boot	Off	On
Netboot (attempting)	Off	Flashing
Netboot (downloading)	Flashing	On
Interrupted (using ARN monitor)	Flashing	Flashing

7. After the boot process completes, the Run LED lights and the Boot LED turns off, indicating that the ARN is operational.

If the LEDs on the ARN light in this sequence, your upgrade is successful. Contact the network administrator to verify that the ARN is now connected to the network.

If the LEDs do not light in this sequence, the network administrator can refer to *Configuring Remote Access* to help troubleshoot the problem.

Note: If the ARN does not contain an expansion module, an adapter module, a redundant power supply, a data collection module, or a Flash card, the LEDs associated with these components remain off.

If you need additional assistance, contact your local Bay Networks Technical Response Center.

Your Next Step

To reconnect the ARN to the network, you need only reboot a valid configuration file. Refer to *Installing and Operating BayStack ARN Routers* or to the *Configuring Remote Access* guide for instructions.

Contact your network administrator if you need additional information.